February 6, 2003

Mr. Gary Richards
Superior Environmental Remediation90, Inc.
1516 North Main Street
Mishawaka, IN 46545

Dear Mr. Richards:

Re: Exempt Construction and Operation Status,
089-17133-00479

The application from Superior Environmental Remediation90, Inc., received on January 23, 2003, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following emission units, to be located at 1305 Sheffield Avenue, Dyer, Indiana, is classified as exempt from air pollution permit requirements:

(a) One (1) groundwater recovery and treatment system identified as GW-1, processing a maximum of 12960 gallons per day of contaminated groundwater, including the following:

(1) Three (3) recovery wells with pumps, identified as wells 1, 2, and 3;
(2) One (1) vertical 500 gallon initial holding tank for storing contaminated water, constructed in 2002, with annual throughput of 4,730,400 gallons per year;
(3) One (1) 1400 pound carbon vessel;
(4) One (1) vertical 2000 gallon final holding tank for storing treated water, constructed in 2002, with annual throughput of 4,730,400 gallons per year;

(b) Two (2) soil vapor extraction and treatment systems identified as SVE-1 and SVE-2, equipped with activated carbon adsorption pollution control units, processing a maximum of 3146 pounds per hour (total) of contaminated soil, including the following:

(1) Eight (8) vapor extraction wells;
(2) Two (2) 55 gallon (each) moisture separators;
(3) Two (2) vacuum pumps;
(4) Two (2) 1000 lb (each) carbon vessels.

The following conditions shall be applicable:

(1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:

(a) Opacity shall not exceed an average of twenty percent (20%) any one (1) six (6) minute averaging period unless otherwise specified in 326 IAC 6-1-10.1.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

(2) Any modification at the source that may increase the potential to emit of VOCs to 25 tons per year or more, shall require prior approval of the Office of Air Quality.

This exemption is the first air approval issued to this source.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

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cc: File - Lake County
Lake County Health Department
Air Compliance - Rick Massoels/ Ramesh Tejuja
Northwest Regional Office
Permit Tracking
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Exemption

Source Background and Description

Source Name:	**Superior Environmental Remediation90, Inc.**
Source Location:	**1305 Sheffield Avenue, Dyer, IN 46311**
County:	**Lake County**
SIC Code:	**8999**
Exemption No.:	**089-17133-00479**
Permit Reviewer:	**Madhurima D. Moulik**

The Office of Air Quality (OAQ) has reviewed an application from Superior Environmental Remediation90, Inc. relating to the construction and operation of a groundwater and soil remediation facility.

Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) One (1) groundwater recovery and treatment system identified as GW-1, processing a maximum of 12960 gallons per day of contaminated groundwater, including the following:

(1) Three (3) recovery wells with pumps, identified as wells 1, 2, and 3;
(2) One (1) vertical 500 gallon initial holding tank for storing contaminated water, constructed in 2002, with annual throughput of 4,730,400 gallons per year;
(3) One (1) 1400 pound carbon vessel;
(4) One (1) vertical 2000 gallon final holding tank for storing treated water, constructed in 2002, with annual throughput of 4,730,400 gallons per year;

(b) Two (2) soil vapor extraction and treatment systems identified as SVE-1 and SVE-2, equipped with activated carbon adsorption pollution control units, processing a maximum of 3146 pounds per hour (total) of contaminated soil, including the following:

(1) Eight (8) vapor extraction wells;
(2) Two (2) 55 gallon (each) moisture separators;
(3) Two (2) vacuum pumps;
(4) Two (2) 1000 lb (each) carbon vessels.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (inches)	Flow Rate (acfm)	Temperature (^{0}F)
Vent # 1	soil vapor extractor	8	4	350	80-90

Vent # 2	soil vapor extractor	8	4	350	80-90

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on January 23, 2003.

Emission Calculations

Soil Vapor Extraction System:

Soil vapor extraction system removes volatile organic compounds from soil beneath the ground surface.

The following emissions calculations are based on air samples:

Chemical	conc. in air (ppm)(submitted by source)	conc. (mg/l)*
Benzene	0.80	0.00255
Toluene	4.205	0.0159
Ethylbenzene	0.57	0.00248
Xylenes	9.05	0.0393
MTBE	0.40	0.00145

* Conc. (mg/l) = conc. (ppm of VOC in air) x 10^{-6} liter of VOC/liter air x Mol. Wt. (g/mole) / 24.4 liters per mole VOC (at standard temperature and pressure)x 10^{3} mg/g

Pollutant	Concentration (mg/l)	Flow Rate (cfm)	Annual VOC Emission Rate (tons/year)
Benzene	0.00255	350	0.015
Ethylbenzene	0.0159	350	0.091
Toluene	0.00248	350	0.014
Xylenes	0.0393	350	0.225
MTBE	0.00145	350	0.008
Total Emissions			**0.353**

Methodology:
VOC/HAP Emissions = concentration (mg/l) x 28.32 l/cu ft x 2.2E-06 lb/mg x flow rate(cfm) x 60 min/hr x 8760 hr/yr x 1 ton/2000 lb

For two (2) soil vapor extraction systems, PTE of VOCs = **0.7 tons per year**

Groundwater Remediation System:

Recovery system schedule = 12 hrs a day

Rate of recovery of BTEX/MTBE = 1.03 lb/day (as submitted by source)

Therefore, potential to emit of VOCs = 1.03 lb/day x 24 hr/12 hr x 365 days/hr x (1 ton/2000lb)

= **0.4 tons per year**

Emissions from 500 gallon wastewater tank = negligible

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	Negligible
PM-10	Negligible
SO_2	Negligible
VOC	1.1
CO	Negligible
NO_x	Negligible

HAP's	Potential To Emit (tons/year)
Single HAP	< 10
TOTAL	***< 25***

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of pollutants are less than the levels listed in 326 IAC 2-1.1-3(d)(1). Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3.

County Attainment Status

The source is located in Lake County.

Pollutant	Status
PM-10	moderate

SO_2	attainment
NO_2	attainment
Ozone	severe nonattainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Lake County has been designated as nonattainment for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

(b) Lake County has been classified as moderate nonattainment for PM-10. Therefore, PM-10 emission were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

Federal Rule Applicability

(a) The 500 gallon wastewater storage tank is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.110b, Subpart Kb) (Standards of performance for volatile organic liquid storage vessels for which construction, reconstruction, or modification commenced after July 23, 1984) since the capacity is less than the applicability threshold capacity of 40 m^3 (10,282 gallons).

(b) The 500 gallon wastewater storage tank is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), Subpart G (national emission standards for organic hazardous air pollutants from the synthetic organic manufacturing industry for process vents, storage vessels, transfer operations, and wastewater), since this source is not an organic manufacturing industry.

State Rule Applicability - Entire Source

326 IAC 2-3 (Emission Offset)

This source, located in Lake County, which is classified as non-attainment for ozone, is not a major source of VOCs. Therefore, 326 IAC 2-3 does not apply.

326 IAC 2-6 (Emission Reporting)

This source is located in Lake County and the potential to emit of VOC and NOx are less than ten (10) tons per year and that of all other criteria pollutants are less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of wastewater and soil remediation units at the source will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 5-1 (Visible Emissions Limitations)

This source is located in the portion of Lake County noted in 326 IAC 5-1-1(c)(4).

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of twenty percent (20%) any one (1) six (6) minute averaging period unless otherwise specified in 326 IAC 6-1-10.1.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 8-7-2 (Specific VOC Reduction Requirements for Lake, Porter, Clark, and Floyd Counties)

The potential to emit of VOCs at this source, located in Lake county, is less than the applicability threshold of 25 tons per year. Therefore, 326 IAC 8-7-2 does not apply.

State Rule Applicability - Individual Facilities

326 IAC 8-1-6 (VOC rules: General Reduction Requirements for New Facilities)

The VOC potential to emit of the soil remediation system and wastewater treatment system are each less than the applicability threshold of 25 tons per year. Therefore, 326 IAC 8-1-6 does not apply.

Conclusion

The construction and operation of this groundwater and soil remediation facility shall be subject to the conditions of the attached proposed Exemption No. 089-17133-00479.